

Amendment and Response to Office Action
U.S. Serial No.: 10/018,727
Filed: August 9, 2002
Page 7 of 11

REMARKS

Claims 1-4, 7, 12 and 21 are pending. Claims 5, 6 and 9-11 have been cancelled and Claims 8 and 13-20 have been withdrawn from consideration. Claim 1 has been amended. Favorable consideration of the currently pending claims is respectfully requested in light of the foregoing amendments and following remarks. No new matter is added.

Rejections Under 35 U.S.C. §103:

In the Office Action, the Examiner has rejected Claims 1-4, 7, 12 and 21 under 35 U.S.C. § 103(a) as being unpatentable over Connell *et al.* (UK 1,037,144) in view of Timmons *et al.* (5,876,753) or vice versa, as discussed in sections 9-10 of the Office Action mailed January 12, 2005 and section 5 of the Office Action mailed September 28, 2005. Applicants respectfully submit that the amendments to the claims and the comments set forth below overcome the Examiner's rejection.

The Examiner has indicated that the units describing applicants' "average power" are actually units of power density. Applicants accept the Examiner's comment, but submit that because the specification and claims recite "power" in terms of power per unit volume, it is clear that applicants are referring to "power density." Nevertheless, applicants have amended Claim 1 and the specification to reflect the more appropriate "average power density" terminology. Applicants submit that the amendment to the specification simply

Amendment and Response to Office Action
U.S. Serial No.: 10/018,727
Filed: August 9, 2002
Page 8 of 11

incorporates what is otherwise clear from the specification and therefore does not constitute new matter.

Applicants agree with the Examiner's understanding that the term "average power density" relates to "power on" time only. Applicants also note that the discussion in the December 28, 2005 Amendment and Response to Final Office Action uses the term "average power" (not average power density) because this is the term referred to in the Timmons *et al.* reference. Finally, applicants confirm that average power **does** take into account the "duty cycle," i.e., both "on" and "off" phases, as defined by Timmons *et al.* (col. 8, lines 1-5).

In the Office Action, the Examiner rejected the arguments set forth in the December 28, 2005 Amendment and Response to Final Office Action related to Timmons *et al.* (US 5,876,753). As noted in the December 28th Response, applicants assert that Timmons *et al.* fail to disclose and, in fact, **teach away** from the use of low average power densities as recited in Claim 1.

Moreover, applicants note that the Timmons *et al.* reference broadly relates to the deposition of "carbonaceous compounds having a reactive functional group" by "low power variable duty cycle pulsed plasma deposition" (claim 1), but fails to define "low power" or provide any values for power density or chamber volume. The portion of the Timmons *et al.* specification cited by the Examiner (col. 7, lines 28-45) notes that "the correlation between applied electromagnetic power and the plasma generated film composition is **complicated** by the fact that many other process variables must also be

Amendment and Response to Office Action
U.S. Serial No.: 10/018,727
Filed: August 9, 2002
Page 9 of 11

simultaneously considered” (emphasis added). Such variables include the “size (e.g., volume) of the reactor chamber, the location of the substrates relative to the plasma discharge zone, the monomer flow rates, the monomer pressure, the nature of the monomer, etc.” Timmons *et al.* provide only general guidance for the selection of these variables, a “complicated” process requiring “simultaneous” consideration of process variables. The Examiner dismisses these teachings of Timmons *et al.*, arguing that it would require only “routine experimentation” to achieve the claimed power densities and dismissing the criticality of applicants’ limitation of average power density to $< 0.05 \text{ W/cm}^3$.

Applicants respectfully disagree and request that the Examiner consider and appreciate applicants’ novel selection of a particular set of compounds not disclosed by Timmons *et al.* and the surprising finding that these compounds deposit successfully under energetic conditions not disclosed or suggested by Timmons *et al.* The novelty of applicants’ selection is supported by the relatively poor results attained in Comparative Examples 4 and 5 of the specification. Applicants submit that, in view of the broad and speculative scope of Timmons *et al.*, more than simple “routine experimentation” is required to achieve the claimed subject matter from the disclosure of Timmons *et al.*

Applicants note that the Connell *et al.* does not remedy the deficiencies of Timmons *et al.* described above. Accordingly, applicants request that the rejection of Claims 1-4, 7, 12 and 21 under 35 U.S.C. § 103(a) over Connell *et al.* in view of Timmons *et al.* or vice versa be withdrawn.

Amendment and Response to Office Action
U.S. Serial No.: 10/018,727
Filed: August 9, 2002
Page 10 of 11

The Examiner notes that, as stated in section 6 of the Office Action mailed September 28, 2005, the Examiner believes that Delfort *et al.* provide cumulative evidence that the amine groups would have been expected to proceed in a covalent coupling reaction or derivatization at the site of the epoxy as suggested and claimed, as well as providing further evidence of the known desirability of such reaction products. In addition, the Examiner has further rejected Claims 1-4, 7, 12 and 21 under 35 U.S.C. § 103(a) as being unpatentable over Timmons *et al.* in view of Kolluri *et al.* (5,723,219).

Applicants submit that neither Delfort *et al.* or Kolluri *et al.*, nor the other prior art of record, remedy the deficiencies of Timmons *et al.* described above. Accordingly, applicants request that the rejection of Claims 1-4, 7, 12 and 21 under 35 U.S.C. § 103(a) over Timmons *et al.* in view of Kolluri *et al.* be withdrawn.

*Amendment and Response to Office Action
U.S. Serial No.: 10/018,727
Filed: August 9, 2002
Page 11 of 11*

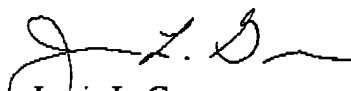
CONCLUSION

Based upon the amendments and remarks provided above, applicants believe that Claims 1-4, 7, 12 and 21 are in condition for allowance. A Notice of Allowance is therefore respectfully solicited.

No additional fees are believed due; however, the Commissioner is hereby authorized to charge any additional fees that may be required, or credit any overpayment, to Deposit Account No. 11-0855.

If the Examiner believes any informalities remain in the application that may be corrected by Examiner's Amendment, or there are any other issues that can be resolved by telephone interview, a telephone call to the undersigned attorney at (404) 815-6500 is respectfully solicited.

Respectfully submitted,


Jamie L. Greene
Reg. No. 32,467

KILPATRICK STOCKTON LLP
1100 Peachtree Road, N.E.
Suite 2800
Atlanta, Georgia 30309-4530
Telephone: (404) 815-6500
Attorney Docket No. 41577/266144 (P1242)